EXECUTIVE SUMMARY

Study Purposes

This study is part of an ongoing effort by Seattle Public Utilities and its wholesale Purveyors to understand, track, and address the needs of residential customers with regard to water conservation. The goals of the 1999 research were to:

- ➢ Identify and evaluate changes in perceptions, attitudes, and behaviors of residential customers toward water conservation
- ➢ Help guide effective programs to foster and achieve conservation among residential customers

Residential customers account for over half of SPU's total water consumption. With a mandate to step up water conservation efforts in the coming years, understanding and serving residential consumers is central to meeting conservation goals.

Methods

Seattle Public Utilities hired Dethman & Tangora LLC, a market research firm in Seattle, to conduct the research. Telephone interviews with a randomly selected, representative sample of 603 residential customers from Seattle and 620 residential customers from Purveyor service areas were conducted during October, 1999. The following margins of error and confidence intervals apply:

- ➢ **Overall Population Sample = 1223**. This sample has been weighted to reflect the relative proportions of Seattle (45%) and Purveyor (55%) populations. A sample of this size carries a +/– 2.9% margin of error with 95% confidence.
- ➢ **Seattle Sample = 603,** carries a +/– 4.1% margin of error with 95% confidence.
- ➢ **Purveyor Sample = 620,** carries a +/– 4.1% margin of error with 95% confidence.

The 1999 survey represents all residential households, both single family and multi-family. To show changes in customer views and behavior over time, this report compares 1994 survey data, which included only single family households, to 1999 single family household data.

Key Findings

Key population findings, as well as notable differences between Seattle and Purveyor customers, are highlighted in this section. More detailed information can be found in the main body of the report and the appendices.

Demographics and Household Characteristics

- The vast majority of customers are homeowners, living in single family homes, Caucasian, and at least 35 years of age, as these statistics show:
  - Three quarters (75%) are homeowners, although Seattle customers are more likely to rent than Purveyor customers are.
  - 78% live in single family dwellings, with Seattle customers more often living in multi-family dwellings.
  - 61% live in 1 or 2 person households.
  - 80% are 35 years of age or older.
  - 83% are Caucasian, with Seattle having a slightly higher minority population.
- Income is more varied, with just over half of customers (53%) having annual family incomes between $25,000 and $50,000, a quarter having incomes over $75,000, and a fifth having incomes below $25,000. Purveyor customers have somewhat higher incomes than Seattle customers do.
- Two-thirds of customers (67%) who live in single family homes report their lots are 10,000 square feet or less.
  - Purveyor customers are much more likely to live on lots of ¼ acre or more and are more likely to have yards than Seattle customers.

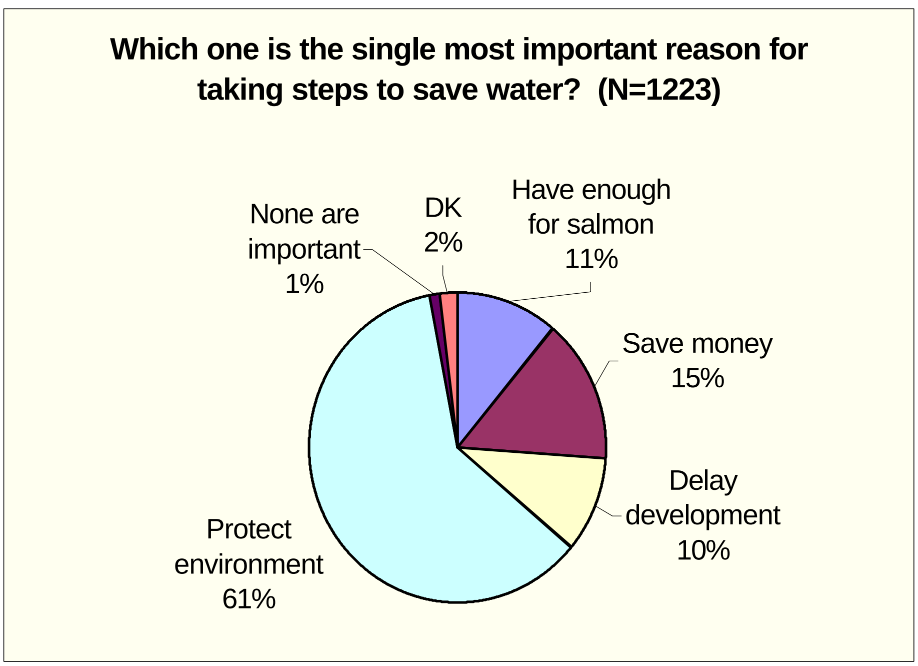
Attitudes About Water Conservation

- Customers are generally concerned about water supply and conservation, and believe that their actions can help solve water supply problems.
  - 62% of customers are very or somewhat concerned that major water supply problems will face their communities over the next 5 years, due to population growth and finite water supplies. However, they are significantly less concerned than in the 1994 survey, when they had recently experienced drought conditions (84% very or somewhat concerned).
  - 87% of customers feel their individual actions can greatly affect (42%) or somewhat affect (45%) whether we have enough water.
  - 91% believe it's important for their households to actively conserve water (49% very important, 42% somewhat important).
  - 15% of all customers feel they can save a great deal more water (over 10%) in their households more, while 29% feel they can save somewhat more (5-10%). Seattle customers feel they can save a little more than Purveyor customers.

Motivations to Save Water

- Protecting the environment appears as the strongest component in customer motivations to save water. Although customers rated all four of the following motivations quite highly, they still discriminated among them:
  - 66% said they would be very likely to conserve water if they knew it would **protect the environment**
  - 60% said **delaying the development of more costly supplies** would be very likely to motivate them.
  - 55% said they were motivated by **having enough water for people and salmon**
  - 52% said that **saving money on their water bills** would very likely affect their behavior
- When asked to choose the single most important reason to conserve water, the vast majority (61%) chose protecting the environment (see **Figure 1**).

Figure 1 - Single Most Important Reason To Save Water



- When asked about what one word among six read to them they would like to see or hear in messages about managing resources, they chose familiar terms most often: environmental (22%) and conservation (25%), and natural (13%) or naturally (10%). Only 15% said “sustainable” and 9% said “salmon friendly.”

- When asked to put in their own words why they should save, protecting the earth for future generations, environmental stewardship, and, simply, “the environment” were all strongly mentioned.

Water Conservation Knowledge and Behaviors

Indoor Water Use

- While two-thirds (67%) of customers report they have installed low-flow showerheads, only half (52%) report they take showers of 5 minutes or less.
- Less than half (48%) of customers are aware that toilet flushing is one of two largest indoor water uses.
  - Seattle customers chose this as a top use significantly more often than Purveyor customers (52% to 45%).
- About a third of customers have one toilet 35%, while 37% have two, and 25% have three.
  - Purveyor customers have significantly more toilets than Seattle customers.
- 60% generally flush the toilet with every use
  - Purveyor customers are significantly more likely to flush with every use (67%) than Seattle customers (52%).
- 64% of customers check their toilets for leaks
  - Seattle customers are significantly less likely to check their toilets for leaks (57%) than Purveyor customers (71%).
- Less than a (29%) third of households report they have replaced 1 or more toilets since 1993 (when the plumbing code changed to require low-flow toilets).
- Most customers (81%) have been satisfied with their new toilets.
- 8% of customers say they’re very likely to replace a toilet in good working order over the next two years.
  - Those who intend to replace their toilets most often say it’s because they will remodel (51%), but 24% say it’s because they want to save water.
- 18%, however, say they would very likely spend $100 to replace a working toilet with a low low-flow model if they knew they could recoup the cost within 2 years through lower bills.
- 52% have some awareness of resource efficient washing machines.

Outdoor Water Use (applies only to customers with yards)

- 77% of all customers have yards, while 23% do not.
  - Purveyor customers are significantly more likely to have yards (80%) than Seattle customers (74%), probably indicating a higher proportion of single family homes in Purveyor areas.
- Among the 77% of customers who have yards:
  - 75% do their own maintenance.
  - 66% improve their soil with compost or other organic amendments.
  - 54% mulch their planting beds
  - 29% use some type of low-volume watering method.
  - 9% report they have no lawn areas, the same as in the 1994 survey (8%).
- Among the 70% of customers who have lawns:
  - 46% have planted half or more of their yard area in lawn.
  - 69% water their lawns during the summer but 30% do not water and 48% water once a week or less.
  - 13% use pesticides to some degree, with Purveyor customers saying they used pesticides more than Seattle customers (18% to 8%).
  - 34% use “weed and feed” type products, with Purveyor customers more often using these products than Seattle customers (40% to 26%).
  - 29% aerate and over-seed their lawns, with Purveyor customers more likely to do this than Seattle customers (34% to 21%).
  - 29% have removed part of their lawns in the past 5 years.
    - 70% of those removing lawn have replaced them with garden areas.
  - 41% use organic fertilizers
  - 43% use mulching mowers.
  - 52% leave grass clippings on their lawns, with Seattle customers more likely to do this than Purveyor customers (55% to 50%).
  - 46% think it’s at least somewhat important to have a green lawn, with Purveyor customers more likely to find a green lawn important (52%) than Seattle customers (37%).
    - The importance of a green lawn has clearly diminished since the 1994 survey, when 61% said it was at least somewhat important.

  - 72% respond favorably to the notion of a Natural Lawn, with Seattle customers more positive than Purveyor customers (77% to 69%).

- Of the 48% of all customers who water their lawns:
  - 21% use automatic sprinkling systems. Of those using automatic systems:
    - 59% adjust them according to temperature
    - 74% inspect them for leaks at least once a year.

Summary of Changes in Attitudes and Behaviors Since 1994

One of the major purposes of this study was to track changes in water conservation attitudes and behaviors over time. The data show a number of gains for conservation: more customers feel they can affect water supplies, fewer customers find a green lawn important, and customers are watering less. These gains correspond to programmatic efforts, and occurred despite a notable decrease in customer concern about impending water supply problems. In addition, customer ratings of the importance of conservation have remained stable.

Some areas of change have been less positive, and these changes appear associated with less programmatic effort. The role of toilets in conservation activities seems less important in consumers' minds, both in terms of how much water they use and keeping them in good repair. Also, the amount of yard covered with lawn appears on the rise since 1994.

The table below first lists the positive changes, followed by the areas of stability, and, finally, the areas where slippage has occurred. The numbers are for single family homes only, since that was the population of the 1994 survey.

Table 1 - Water Conservation Areas of Change and Stability

<table>
<tr><th>Areas of Conservation Gains
(Single family households only; N of respondents varies)</th><th colspan="2">1994 Survey
%</th><th>1999 Survey
%</th></tr>
<tr><td>Can Individuals Make Supplies Last Longer?</td><td colspan="2"></td><td></td></tr>
<tr><td>Greatly affect/Make supplies last a lot longer</td><td colspan="2">28</td><td>42</td></tr>
<tr><td>How Important is a Green Lawn?</td><td colspan="2"></td><td></td></tr>
<tr><td>Very important</td><td colspan="2">22</td><td>16</td></tr>
<tr><td>Somewhat important</td><td colspan="2">39</td><td>29</td></tr>
<tr><td>Not too important</td><td colspan="2">27</td><td>28</td></tr>
<tr><td>Not at all important</td><td colspan="2">12</td><td>26</td></tr>
<tr><td>How Often Do You Water Your Lawn?</td><td>1991</td><td>1994</td><td>1999</td></tr>
<tr><td>Never water</td><td>15</td><td>23</td><td>30</td></tr>
<tr><td>Twice a month or less</td><td>14</td><td>17</td><td>35</td></tr>
<tr><td>Once a week</td><td>26</td><td>35</td><td>35</td></tr>
</table>

Table 1, continued	**1991**	**1994**	**1999**
Every three days	45	37	21
Every other day	14	9	7
Every day	2	2	2
Areas of Stability		**1994**	**1999**
How Important is Conserving Water?			
Very important		53	50
Somewhat important		42	41
Areas of Conservation Slippage			
What Are Two Largest Indoor Water Uses?			
Flushing Toilets (Note: Small loss but worth nothing since clothes washing is up from 49% to 66% as one of the top 2.)		49	46
Toilets Checked for Leaks in Past Year?			
Yes		79	68
How Much of Yard is Lawn?			
No lawn		8	9
Up to ¼ of yard area		27	19
¼ to ½		32	25
½ to ¾		24	27
Over ¾ of yard area		8	20
Don't know		-	1

Customer Information Sources

- Customers clearly depend upon different information sources to gather different types of information, as shown in **Table 2 below**. Newspapers are the best cross-over source.

Table 2 - Where Customers Go to Get Information

Where customers go to get information on . . .	**Lawn & Garden %**	**Appliances %**	**Water supply & Environment %**
Local Nurseries	30	-	-
Books and magazines	21	14	-
Newspapers	14	11	40
Appliance stores	-	49	-
Government/utilities	-	-	24

- They obtain lawn and garden care information from local nurseries (30%), books and magazines (21%), and the newspaper (14%).
- They get appliance information from home improvement, hardware, or appliance stores (49%), books and magazines (14%), and newspapers (11%).
- They go to newspaper articles and columns (40%) and governments or utilities (24%) for information about water supply and environmental issues.

Profiles of Key Customer Segments

➢ Chapter 6 profiles key customer segments that will be useful in planning conservation efforts (e.g., a profile of those who would be likely to spent $100 to replace their toilets if the payback in bill savings is two years or less). The various segments are characterized by the demographics, household characteristics, attitudes, and behaviors that distinguish them. The reader is referred to Chapter 6 for more details.

Conclusions and recommendations

Four conclusions emerge from findings in this study:

1. Customer characteristics, attitudes, and behaviors across the region are more similar than different, and have become more similar over time.

While some demographic, attitudinal, and behavioral differences do exist between Seattle and Purveyor customers, these customer groups tend to be more similar than different along most dimensions. In addition, the congruence of these two populations has increased over time. The consistency in the population bodes well for the success of conservation programs that are delivered on a regional basis.

However, it is also important to remember that a considerable amount of variation exists within the population and that all conservation efforts do not suit all population segments equally well. For instance, customers in multi-family dwellings can probably do more to conserve indoors or in common outdoor areas, while single family home dwellers have opportunities both inside and outside.

2. Environmentalism is the single most important motivator for saving water.

As suggested by the specific key findings listed above, protecting the environment appears as the strongest component in customer motivations to save water. The environmental umbrella is also useful for discussing issues that cut across resources – for instance, salmon recovery and restoration. Although customers rated all four motivations (protecting the environment, saving money, having enough water for salmon, and delaying the development of more costly sources of supply) quite highly, and all can be used to motivate customers, protecting the environment was at the top of the list.

Since the notion of “the environment” also tends to become abstract, it will be important to find ways to connect environmental protection with specific steps customers can take and the consequences – either positive or negative – of taking those steps.

3. Changes in attitudes and behaviors have occurred and are linked to utility efforts.

The good news is that there seems to be a direct relationship between utility program emphasis and changes over time in awareness, attitudes, and behavior. However, this relationship cuts in both positive and negative directions. Clearly, all the emphasis on less lawn watering and deflating the necessity and image of having a green lawn has engendered water saving behaviors and attitudes.

On the other hand, we can see that the behaviors and attitudes that received less attention have eroded over time (e.g., checking for toilet leaks). It even appears that programs can have mixed results for customer understanding. A good deal of attention over the past few years has been paid to resource efficient washers through the WashWise program. No doubt this has increased customer awareness of these washers. However, it may also have “mislead” customers into assuming that the water used in washing clothes is usually greater than the water used in flushing toilets.

4. Good opportunities for more conservation exist.

The data strongly reveal that more progress in water conservation can be made. Not only do customers support further conservation, many also agree there is more to do and that they could realistically save more:

- 15% say they can save 10% or more water in their homes
- 29% say they can save somewhat more (5-10%).
- 32% say they can save a little more (1-5%)

Several important opportunities for knowledge, attitudinal, and behavioral changes still exist among residential customers, all of which can be effectively placed in the context of environmental protection. Major opportunities include:

- Increasing awareness of taking shorter showers
- Encouraging even more showerhead replacements
- Increasing awareness of resource efficient washers
- Increasing awareness of water savings through toilet use and through promoting the benefits of low-flow toilets. Awareness should be increased in these areas:
  - toilets are the largest use of water indoors
  - flushing less saves significant water

  - installing low flow toilets is environmentally responsible, cost-effective, and customers are satisfied with these toilets
  - checking for leaks is important

- Increasing awareness and use of natural lawn behaviors, including no watering
- Increasing lawn "downsizing"
- Increasing water saving and environmentally friendly lawn practices
- Further use of customer identified preferred methods of disseminating information – nurseries, newspapers, utilities, hardware and appliance stores